

cited in the European Search  
Report of EP 8910 8326.8  
Your Ref.: 7027E

9501 4(004)

31 May 1995

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11)Publication number:

07007865 A

(43)Date of publication of application: 10.01.95

(51)Int. Cl. H02J 7/10

(21)Application number: 05171185

(22)Date of filing: 17.06.93

(71)Applicant: TOYO COMMUN EQUIP CO LTD

(72)Inventor: TAMURA MASAHIRO  
KINOSHITA KAZUYUKI

(54)METHOD FOR DETECTING CHARGING  
COMPLETION OF BATTERY CHARGER AND  
ITS EQUIPMENT

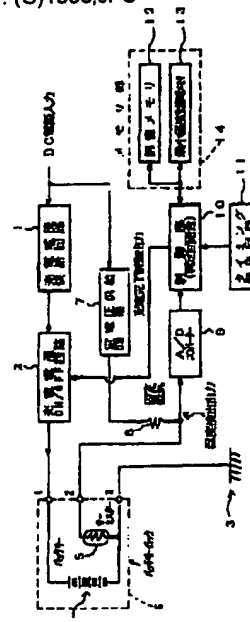
temperature gradient value is larger than the stored  
value in the minimum temperature gradient memory 13  
and the difference between them exceeds a set point.

(57)Abstract:

COPYRIGHT: (C)1995,JPO

PURPOSE: To eliminate the influence of temperature rise in a battery charger itself and to accurately detect the completion of charging even though the temperature gradient of the battery is small by storing the minimum value within the temperature gradient of the secondary battery being charged and by judging the completion of charging when the difference between the minimum value and present temperature gradient exceeds a predetermined value.

CONSTITUTION: A constant voltage output from a constant voltage output circuit 7 is supplied to a fixed resistor 8 and a thermister 5, and its partial voltage value is written to a control portion 10 as a temperature detection output of a secondary battery 4 through A, C converters. This writing is performed at constant intervals by the timing signal of a timing generating circuit 11. Then, the temperature gradient value is calculated, this value is stored in a front-end memory 12 as a present-time temperature gradient value and sequentially updated, and the minimum value of the temperature gradient value at the present-time point is stored in a minimum temperature gradient memory 13. Here, the completion of charging is judged and charging is completed when the present



BEST AVAILABLE COPY

RECEIVED  
SEP 22 2000  
TECHNOLOGY CENTER 2800